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Please find below and/or attached an Office communication concerning this application or proceeding.

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/582,908
Filing Date: June 14, 2006
Appellant(s): JIANG ET AL.

Gregory L. Thorne
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal briefs filed 23 November 2009 and 10 December 2009 appealing from the Office action mailed 23 June 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

Appellant's brief presents arguments relating to the objection to the original specification. This issue relates to petitionable subject matter under 37 CFR 1.181 and not to appealable subject matter. See MPEP § 1002 and § 1201.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,642,579	Netten et al.	7-1997
2,615,265	Maykemper	10-1952
5,042,179	van der Meer	8-1991
2006/0213092	Leta	9-2006
5,536,375	Vogelman	7-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-8 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention. In the instant case, the recitation to "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 otherwise said valve is controlled to be closed" (emphasis on "otherwise said valve is controlled to be closed) is deemed new matter. The examiner can find disclose to "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38" in the Abstract, page 1, lines 21-23 and original claim 1. There is no disclosure to the control means controlling the value to otherwise be closed if the ratio between the flow rate (g/min) of the pump and the power of the heating means is not in a range of 1:20 to 1:38. Therefore, the recitation to such is deemed new matter.

Claims 1-8 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The instant case recites the limitation "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 *otherwise said valve is controlled to be closed*". The addition of the new limitation (previously italicized and underlined) requires the examiner to reexamine how the control means opens the control valve if the recited ratio between the flow rate (g/min) of the pump and the power of the heating

means (i.e. 1:20 to 1:38) exists and closes the control value if the recited ratio between the flow rate (g/min) of the pump and the power of the heating means does not exist. The examiner can only find enabling disclosure to the ratio between the flow rate (g/min) of the pump and the power of the heating means being controlled/adjusted by: adjusting both the power of the heating element of the steam generator and the flow rate of the pump; keeping the power of the heating element at a fixed value and only adjusting the flow rate of the pump; or vice versa (i.e. keeping the flow rate of the pump at a fixed value and only adjusting the power of the heating element) (page 1, line27 – page 2, line 2). Applicant explicitly discloses the ratio between the flow rate (g/min) of the pump and the power of the heating means being control by: flow rate and heating means; flow rate only; and heating rate only with no disclosure to the valve controlling any ratio between the flow rate (g/min) of the pump and the power of the heating means by an opening or closing. Hence, the examiner can find no enabling disclosure to how the control means controls the opening and closing of a valve dependent on the ratio and otherwise closing it if the ratio condition is not met. Therefore, the recitation to "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 otherwise said valve is controlled to be closed" is deemed non-enabling due to the amendment to the claims

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 2 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179) and Maykemper (U.S. Patent No. 2,615,265).

Netten et al. disclose a steam ironing device (Title) comprising a steam iron (see Figure 1, 6, 7) having a housing, a heatable soleplate (2) at the bottom side of the housing and at least one steam outlet opening (steam vents 20), the ironing device comprising a water supply device (water tank 8), a steam generator (steam chamber 12) for generating steam, heating means (heating element 18) for heating the steam generator (steam chamber 12), a flow path between the steam generator (steam chamber 12) and the steam outlet openings (steam vents 20); an electric pump (water pump 10) for delivering water from the water supply device (water reservoir 4) to the steam generator (steam chamber 12), characterized in that the ironing device (Title) comprises control means (controller 16 and thermostat not shown): for controlling the power of the heating means (heating element 18) of the steam generator (steam chamber 12); for controlling the flow rate of the pump (water pump 10), and a ratio between the flow rate (g/min) of the pump and the power heating means being about 1:31.25 (48 g/min to 1500 W equals approximately 1:31.25) (pages 1-2, paragraph 14).

Netten et al. further disclose a steam generator can alternatively be detached from the system, connected via a hose and the steam being controlled is passed into the steam duct (22) via a controllable steam valve under control of a signal having similar function as the pump signal PS (column 5, lines 2-6)

Netten et al. disclose all of the limitations of the claimed invention, as previously set forth, except for at least one atomization device being part of the steam outlet openings; and a valve provided in the flow path between the steam generator and the steam outlet; the control means for controlling the opening and closing of the valve, the valve being open if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 or in a range of 1:23 to 1:30 to control the wetness of steam delivered by the steam outlet device.

However, having an atomizing device in the steam outlet after the generation of steam is known in the art. Maykemper, for example, teaches the use of an atomization device (column 7, line 50 - column 8, line 48) to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process.

Similarly, the use of a valve provided in the flow path between the steam generator and the steam outlet as well as the valve having a control means for opening and closing the valve if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 is known in the art. Van der Meer, for example, teaches a steam iron comprising a steam generator (40) having a steam valve (46) being used to open and close the steam pipe between the steam generator (40) and the steam passages (not shown) in the soleplate (20) (column 5, lines 37-67; column 8, line). In addition, Van der Meer teaches a second heating element (41) providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting

of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Van der Meer further teaches the advantage of such a configuration provides for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle (column 3, lines 5-40), thereby improving the efficiency of the steam iron device.

With respect to limitation of "a control means for opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 otherwise said valve is controlled to be closed", van der Meer explicitly teaches an iron comprising a control means (microprocessor 155). Applicant has recited a "control means for…" essentially invoking 35 U.S.C. 112, sixth paragraph requiring the examiner to refer the specification/disclosure to what exactly "a control means for…" is. The examiner finds disclosure to control means (7) on the bottom of page 3 of the specification as well as in Figures 1-3. In addition, the examiner finds disclosure to "the control device controls the power of the heating means of the steam generator, the flow rate of water to the steam generator, and the position of a 3-way valve" (page 3, lines 8-10). Furthermore, applicant discloses "***The desired water-to-steam ratio can be obtained by adjusting both the power of the heating element of the steam generator and the flow rate of the pump. However, it is also***

possible to keep the power of the heating element at a fixed value and only to adjust the flow rate of the pump, or vice versa, to obtain the desired ratio" (page 1, line 27 – page 2, line 2). Therefore the control means for attaining the ratio between the flow rate and power can be controlled by: adjusting both the power of the heating element of the steam generator and the flow rate of the pump; keeping the power of the heating element at a fixed value and only to adjusting the flow rate of the pump; or vice versa (i.e. ***keeping the flow rate of the pump at a fixed value and only adjusting the power of the heating element***).

Van de Meer teaches a control valve (46) being opened and closed based on usage of the device (column 8, line 17 - column 13, line 2). In addition, van der Meer teaches a second heating element (41) providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). ***Van de Meer explicitly teaches the ratio between the flow rate and power being attained by adjusting the on/off time of the heating element to keep the ratio between the flow rate and power at the desired ratio***, as asserted above (column 10, lines 13 - column 12, line 58). In addition, if van de Meer is not controlling the temperature of the heating element during use, the value is controlled to be closed (column 10, lines63 - column 11, line 3). Therefore since van der Meer discloses a control means (microprocessor 155) controlling a control program (see

Figures 3a-3d) that opens and closes a control valve (46) and the steam program delivering steam of 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) ***by adjusting the on/off time of the heating element to keep the ratio between the flow rate and power at the desired ratio***, van der Meer fully meets "a control means for opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38" given its broadest reasonable interpretation.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the steam outlet openings of Netten et al. with an atomization device as taught by Maykemper in order to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process. It would have further been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. with the steam valve in the steam pipe between the steam generator an the steam outlet passages in order to provide for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle, thereby improving the efficiency of the steam iron device.

Claims 3-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179) and Maykemper (U.S. Patent No. 2,615,265) as applied to claims 1 and 2 above, and further in view of Leta (U.S. Publication No. 2006/0213092).

Netten et al. in view of van der Meer and Maykemper discloses all of the limitations, as previously, except for the atomizing device comprising at least one nozzle provided in a front part of the housing; the atomizing device comprising at least one nozzle provided in a tip area of the soleplate; the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided; the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45.

However, a steam iron comprising a nozzle configuration in a front part of the housing, at least one nozzle provided in a tip area of the soleplate, the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided is known in the art. Leta, for example, teaches a steam ironing apparatus comprising a nozzle (218, 318) in a front part of a housing as well a narrowing perforations (206, 306) in the front tip of the soleplate equivalent, given its broadest reasonable interpretation, to nozzles (see Figure 3-9). In addition, Leta teaches a flow path (213/231; 313/331) having a second flow path (second conduits 211, 311) being connected to nozzle (218) with the second flow path (second conduits 211, 311) having a steam chamber (distribution chamber 232, 332) in

the flow path (211) between the flow path (213/231; 313/331) and the narrowing perforations (206, 306). Leta also teaches a valve (228) or a first valve second valve configuration (328, 329) controlling the flow between nozzle (218, 318) and narrowing perforations (206, 306) (page 3, paragraph 34 – page 4, paragraph 48). Leta further teaches the advantage of such a configuration provides that ability to provide a higher moisture content of the steam at the front potion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect (page 1, paragraph 5). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. in view of van der Meer and Maykemper with the nozzles in the front portion of the housing, the front portion tip of the soleplate as well as the valve and second steam chamber in a second conduit of Leta in order to provide a higher moisture content of the steam at the front potion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect.

With respect to the limitation of the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45, van der Meer discloses a number of preferred ratios of flow rate to power of the heating element ratios (column 11, line 47 – column 12, lines 22). In addition, Leta specifically teaches the diversion of the steam from the steam generating chamber to either the narrowing perforations (206) or the nozzle (218) depending on the setting of the valve (228) (page 3, paragraph 41). To provide the valve opening the second flow

path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45 would have been a mere engineering expediency as van der Meer clearly discloses varying the flow rate to power ratio and Leta further teaches varying the flow between two flow paths depending on the requirements.

To the degree it can be argued that van der Meer" does not disclose "a control means for opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38", the additional rejection is provided as set forth below:

Claims 1 and 2 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179), Vogelman (U.S. Patent No. 5,536,375) and Maykemper (U.S. Patent No. 2,615,265).

Netten et al. disclose a steam ironing device (Title) comprising a steam iron (see Figure 1, 6, 7) having a housing, a heatable soleplate (2) at the bottom side of the housing and at least one steam outlet opening (steam vents 20), the ironing device comprising a water supply device (water tank 8), a steam generator (steam chamber 12) for generating steam, heating means (heating element 18) for heating the steam generator (steam chamber 12), a flow path between the steam generator (steam chamber 12) and the steam outlet openings (steam vents 20); an electric pump (water pump 10) for delivering water from the water supply device (water reservoir 4) to the

steam generator (steam chamber 12), characterized in that the ironing device (Title) comprises control means (controller 16 and thermostat not shown): for controlling the power of the heating means (heating element 18) of the steam generator (steam chamber 12); for controlling the flow rate of the pump (water pump 10), and a ratio between the flow rate (g/min) of the pump and the power heating means being about 1:31.25 (48 g/min to 1500 W equals approximately 1:31.25) (pages 1-2, paragraph 14).

Netten et al. further disclose a steam generator can alternatively be detached from the system, connected via a hose and the steam being controlled is passed into the steam duct (22) via a controllable steam valve under control of a signal having similar function as the pump signal PS (column 5, lines 2-6)

Netten et al. disclose all of the limitations of the claimed invention, as previously set forth, except for at least one atomization device being part of the steam outlet openings; and a valve provided in the flow path between the steam generator and the steam outlet; the control means for controlling the opening and closing of the valve, the valve being open if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 or in a range of 1:23 to 1:30 otherwise the valve is controlled to be closed.

However, having an atomizing device in the steam outlet after the generation of steam is known in the art. Maykemper, for example, teaches the use of an atomization device (column 7, line 50 - column 8, line 48) to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process.

However, a valve provided in the flow path between the steam generator and the steam outlet as well as the valve having a control means for opening and closing the valve if the ratio between the flow rate (g/min) of the pump and the power heating means is in a range of 1:20 to 1:38 is known in the art. Van der Meer, for example, teaches a steam iron comprising a steam generator (40) having a steam valve (46) being used to open and close the steam pipe between the steam generator (40) and the steam passages (not shown) in the soleplate (20) (column 5, lines 37-67; column 8, line). In addition, Van der Meer teaches a second heating element (41) providing the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Van der Meer further teaches the advantage of such a configuration provides for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle (column 3, lines 5-40), thereby improving the efficiency of the steam iron device.

Similarly, Vogelman teaches a steam generating apparatus comprising a flow restrictor (62) being started and stopped by an electrically operated valve (63) under control of a microprocessor based controller (30) (column 3, line 26 – column 4, line 5;

column 11, lines 35-40; column 12, lines 17-57) to control the flow rate of fluid/water during operation. Vogelman further teaches the advantage of such a configuration provides a mean to avoid/prevent damage to the boiler and other parts, thereby increasing the operational longevity of the apparatus.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the steam outlet openings of Netten et al. with an atomization device as taught by Maykemper in order to provide a mechanism that prevents water from passing from the pressing face of the soleplate and excessively wetting the material, thereby improving the quality of the steam ironing process. In addition, it would have further been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. with the steam valve in the steam pipe between the steam generator an the steam outlet passages in order to provide for the steam generator to be heated with the steam valve closed during a break or standby period until a considerable excess pressure relative to ambient pressure and a corresponding temperature prevail within the steam generator as well as for providing for the steam delivery level to be maintained during the ironing cycle, thereby improving the efficiency of the steam iron device. Furthermore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. with the computer controlled valve control of Vogelman in order to provide a means to avoid/prevent damage to the boiler and other parts, thereby increasing the operational longevity of the apparatus.

Claims 3-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Netten et al. (U.S. Patent No. 5,642,579) in view of van der Meer (U.S. Patent No. 5,042,179), Vogelman (U.S. Patent No. 5,536,375) and Maykemper (U.S. Patent No. 2,615,265) as applied to claims 1 and 2 above, and further in view of Leta (U.S. Publication No. 2006/0213092).

Netten et al. in view of van der Meer, Vogelman and Maykemper discloses all of the limitations, as previously, except for the atomizing device comprising at least one nozzle provided in a front part of the housing; the atomizing device comprising at least one nozzle provided in a tip area of the soleplate; the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided; the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45.

However, a steam iron comprising a nozzle configuration in a front part of the housing, at least one nozzle provided in a tip area of the soleplate, the soleplate being provided with at least one discharge opening which is connected to the steam generator through a second flow path in which a steam chamber is provided is known in the art. Leta, for example, teaches a steam ironing apparatus comprising a nozzle (218, 318) in a front part of a housing as well a narrowing perforations (206, 306) in the front tip of the soleplate equivalent, given its broadest reasonable interpretation, to nozzles (see Figure 3-9). In addition, Leta teaches a flow path (213/231; 313/331) having a second flow path (second conduits 211, 311) being connected to nozzle (218) with the second flow path

(second conduits 211, 311) having a steam chamber (distribution chamber 232, 332) in the flow path (211) between the flow path (213/231; 313/331) and the narrowing perforations (206, 306). Leta also teaches a valve (228) or a first valve second valve configuration (328, 329) controlling the flow between nozzle (218, 318) and narrowing perforations (206, 306) (page 3, paragraph 34 – page 4, paragraph 48). Leta further teaches the advantage of such a configuration provides that ability to provide a higher moisture content of the steam at the front potion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect (page 1, paragraph 5). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Netten et al. in view of van der Meer, Vogelman and Maykemper with the nozzles in the front portion of the housing, the front portion tip of the soleplate as well as the valve and second steam chamber in a second conduit of Leta in order to provide a higher moisture content of the steam at the front potion of the flat iron than the central portion of the flat iron, thereby providing the ability to soften the fibers to a suitably greater extent in view of boosting the ironing effect.

With respect to the limitation of the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45, van der Meer discloses a number of preferred ratios of flow rate to power of the heating element ratios (column 11, line 47 – column 12, lines 22). In addition, Leta specifically teaches the diversion of the steam from the steam generating chamber to either the narrowing perforations (206) or the nozzle (218) depending on the setting of

the valve (228) (page 3, paragraph 41). To provide the valve opening the second flow path if the ratio between the flow rate of the pump and the power of the heating means is greater than 1:45 would have been a mere engineering expediency as van der Meer clearly discloses varying the flow rate to power ratio and Leta further teaches varying the flow between two flow paths depending on the requirements.

(10) Response to Argument

Claims 1-8 are said to fail to comply with the written description requirement provided under 35 U.S.C. §112, first paragraph (i.e. New matter).

With respect to appellant's reply/argument that the original disclosure provides support for the recitation to "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 *otherwise said valve is controlled to be closed*" (emphasis on "otherwise said valve is controlled to be closed), the examiner respectfully disagrees. The examiner can find disclose to "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38" in the Abstract, page 1, lines 21-23 and original claim 1. Appellant provides reference to:

> The steam generator according to the invention generates wet steam. The wetness of the steam in the steam generator, i.e. the ratio between the amount of water and the amount of steam, is determined by the control means and depends on the ratio between the flow rate of the pump and the power of the heating means. The desired water-to-steam ratio can be obtained by adjusting both the power of the heating element of the steam generator and the flow rate of the pump. However, it is also possible to keep the power of the heating element at a fixed value and only to adjust the flow rate of the pump, or vice versa, to obtain

> the desired ratio. If the ratio between the flow rate of the pump and the power of the heating means is within the claimed range, moistening of fabrics is very effective.

Appellant discloses how the desired water-to-steam ratio between the flow rate (g/min) of the pump and the power of the heating means being *is controlled/adjusted via the control means*. Appellant further discloses:

> The control means 7 *trigger the pump 5* to deliver the proper flow rate. When the steam generator 6 has reached its *operating temperature*, *the user can open the valve 11*, which results in starting of the pump 5. ***The pump can only be started*** when the steam generator has reached its operating temperature.

The valve (11) *can be opened, by the user,* when the steam generator (6) has reached its operating temperature, as asserted above, which implies the valve (11) can also be opened, by the user, when the stream generator (6) has not reached its operating temperature. Appellant further discloses "the ***pump can only be started*** when the steam generator has reached its ***operating temperature***. There is disclosure to the control means (7) controlling the pump (5) and the pump (5) only being started when the steam generator (6) has reached its operating temperature. *The control of the pump is based on temperature to produce a certain flow rate*. The user/operator has the ability to open the valve (11) (i.e. the user can open the valve 11, which results in starting of the pump 5) if the temperature of the steam generator (6) has reached an appropriate temperature not if a certain water flow/power ratio exists.

Appellant further asserts "the valve can only be opened when the steam generator has reached its operating temperature". This is incorrect since the original disclosure states "When the steam generator 6 has reached its *operating temperature*, *the user can open the valve 11*, which results in starting of the pump 5. ***The pump can***

only be started when the steam generator has reached its operating temperature". It is not the valve that "can only be opened" it is "the pump that can only be started". Therefore, the valve can be opened is the temperature if a certain temperature or not as asserted above.

Hence, the recitation to "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 *otherwise said valve is controlled to be closed*" is deemed to be new matter since the valve is controlled based on temperature not based on if a certain water flow/power ratio exists. Therefore, the 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, r4jection is maintained as set forth above.

Claims 1-8 are said to fail to comply with the enablement requirement provided under 35 U.S.C. §112, first paragraph.

With respect to appellant's reply/argument that the original disclosure provides how the control means controls the opening and closing of a valve depending on the ratio of water flow/power and otherwise closing the valve if the ratio is not met, the examiner respectfully disagrees. As appellant respectfully asserts "35 U.S.C. §112, first paragraph states in pertinent part (emphasis added):

> The specification shall contain ... the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same..."

Appellant recites the limitation "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 *otherwise said valve is controlled to be closed*". The examiner can only find enabling disclosure to the ratio between the flow rate (g/min) of the pump and the power of the heating means being controlled/adjusted by: adjusting both the power of the heating element of the steam generator and the flow rate of the pump; keeping the power of the heating element at a fixed value and only adjusting the flow rate of the pump; or vice versa (i.e. keeping the flow rate of the pump at a fixed value and only adjusting the power of the heating element) (page 1, line 27 – page 2, line 2). Applicant explicitly discloses the ratio between the flow rate (g/min) of the pump and the power of the heating means being control by: flow rate and heating means; flow rate only; and heating rate only with no disclosure to the valve controlling or being dependent on any ratio between the flow rate (g/min) of the pump and the power of the heating means by an opening or closing.

> Furthermore, as asserted above, Appellant discloses:
>
> The control means 7 *trigger the pump 5* to deliver the proper flow rate. When the steam generator 6 has reached its *operating temperature*, *the user can open the valve 11*, which results in starting of the pump 5. ***The pump can only be started*** when the steam generator has reached its operating temperature.

The valve (11) *can be opened, by the user,* when the steam generator (6) has reached its operating temperature, as asserted above, which implies the valve (11) can also be opened, by the user, when the stream generator (6) has not reached its operating temperature. Appellant further discloses "the ***pump can only be started*** when the steam generator has reached its ***operating temperature***. There is disclosure to the

control means (7) controlling the pump (5) and the pump (5) only being started when the steam generator (6) has reached its operating temperature. *The control of the pump is based on temperature to produce a certain flow rate*. The user/operator has the ability to open the valve (11) (i.e. the user can open the valve 11, which results in starting of the pump 5) if the temperature of the steam generator (6) has reached an appropriate temperature not if a certain water flow/power ratio exists.

The question is not whether the control means controls each of the pump (5), the heating means (13) of the steam generator (6) and the valve (11), the question is whether the valve (11) is controlled to be open or closed based on the a certain water flow/power ratio and whether this supported by the original disclosure and one of ordinary skill in the art would know how to make or use such a structure to perform such a functionality since it is not disclosed by appellant.

Hence, the examiner can find no enabling disclosure to how the control means controls the opening and closing of a valve dependent on the ratio and otherwise closing it if the ratio condition is not met. Therefore, the recitation to "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 otherwise said valve is controlled to be closed" is deemed non-enabling due to the amendment to the claims and the rejection is maintained.

Claim 1 and 2 are said to be unpatentable over Netten in view of van der Meet and Maykemper.

With respect to appellant's reply/argument that van der Meer does not teach that the control circuit specifically controls steam valve (46) to open if the ratio between the flow rates (g/min) of the pump and the power (W) of the heating means is in a range of 1:20 to 1:38, otherwise said valve is controlled to be closed, the examiner respectfully disagrees. The examiner initially asserts that there is no enabling support for the valve being controlled based on the flow rate (g/min)/power (W) ratio, but being controlled based on the user and if a certain operating temperature is achieved by the steam generator (6). However, the claim limitations were examined as set forth in the disclosure.

Van der Meer explicitly teaches an iron comprising a control means (microprocessor 155). Applicant has recited a "control means for…" essentially invoking 35 U.S.C. 112, sixth paragraph requiring the examiner to refer the specification/disclosure to what exactly "a control means for…" is. The examiner finds disclosure to control means (7) on the bottom of page 3 of the specification as well as in Figures 1-3. In addition, the examiner finds disclosure to "the control device controls the power of the heating means of the steam generator, the flow rate of water to the steam generator, and the position of a 3-way valve" (page 3, lines 8-10). Furthermore, applicant discloses "***The desired water-to-steam ratio can be obtained by adjusting both the power of the heating element of the steam generator and the flow rate of the pump. However, it is also possible to keep the power of the heating element at a fixed value and only to adjust the flow rate of the pump, or vice versa, to obtain the desired ratio***" (page 1, line 27 – page 2, line 2). Therefore the control means for

attaining the ratio between the flow rate and power can be controlled by: adjusting both the power of the heating element of the steam generator and the flow rate of the pump; keeping the power of the heating element at a fixed value and only to adjusting the flow rate of the pump; or vice versa (i.e. ***keeping the flow rate of the pump at a fixed value and only adjusting the power of the heating element***).

In addition, Appellant further discloses:

> The control means 7 *trigger the pump 5* to deliver the proper flow rate. When the steam generator 6 has reached its *operating temperature*, *the user can open the valve 11*, which results in starting of the pump 5. ***The pump can only be started*** when the steam generator has reached its operating temperature.

The valve (11) *can be opened, by the user,* when the steam generator (6) has reached its operating temperature, as asserted above, which implies the valve (11) can also be opened, by the user, when the stream generator (6) has not reached its operating temperature. Appellant further discloses "the ***pump can only be started*** when the steam generator has reached its ***operating temperature***. There is disclosure to the control means (7) controlling the pump (5) and the pump (5) only being started when the steam generator (6) has reached its operating temperature. *The control of the pump is based on temperature to produce a certain flow rate*. The user/operator has the ability to open the valve (11) (i.e. the user can open the valve 11, which results in starting of the pump 5) if the temperature of the steam generator (6) has reached an appropriate temperature not if a certain water flow/power ratio exists.

In that regard, van der Meer teaches that:

> "During an ironing cycle ***the steam valve is opened*** and pressure and temperature in the tank decrease while steam flows away. The steam level is stabilized at a particular level by supplying an adequate quantity of energy to the

> tank. For 15 g/min it is 600 W. This means that 1300 W element has to be on 600/1300th part of the time."

In addition, van der Meer further teaches the heat for the steam generator (4) with the flow rate of steam starting at 35g/min at 600W and being maintained at 15 g/min at 600W with the additional setting of 20 or 25 g/min to 600W (column 11, line 47 – column 12, lines 22) (35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24). Van der Meer further teaches the steam valve being opened during usage with the temperature and pressure being controlled accordingly and closed when the steam iron is not is use (column 10, line 13 - column 11, line 3; columns 13-16, claims13, 21, 22).

Therefore since Van der Meer explicitly discloses controlling the steam valve (46) being opened if and when the temperature is adequate enough to provide a flow rate (g/min)/power (W) ratio of 1:20 to 1:38 (i.e. 35 g/min to 600 W equals approximately 1:17.14; 15 g/min to 600 W equals approximately 1:40; 20g/min to 600 W equals approximately 1:30; 25 g/min to 600 W equals approximately 1:24; column 11, line 47 – column 12, lines 22) and closing the valve when usage is not desired which shuts off the heaters and reduces the temperature and pressure to not produce a flow rate (g/min)/power (W) ratio of 1:20 to 1:38, van der Meer fully meets "a control means for controlling opening and closing a valve if the ratio between the flow rate (g/min) of the pump and the power of the heating means is in a range of 1:20 to 1:38 *otherwise said valve is controlled to be closed*" as set forth by the disclosure due to 35 U.S.C. 112, sixth paragraph, being invoked by applicant.

Claims 3-8 are said to be unpatentable over Netten, van der Meer, Maykemper, and further in view of Leta;

Claims 1 and 2 are said to be unpatentable over Netten in view of van der Meer, Vogelman and Maykemper; and

Claims 3-8 are said to be unpatentable over Netten, van der Meet, Vogelman and Maykemper, and further in view of Leta.

With respect to appellant's reply/argument of the rejection of claims 3-8; 1 and 2 and 3-8 in light of arguments previous set forth in section above, the reply/argument is deemed addressed in the sections above related to the reply/argument to the rejections above.

Conclusion

In conclusion, the claims on appeal are not novel as it pertains to a steam ironing device. The examiner has provided proper evidence to support a *prima facie* case of obviousness with respect to the rejection(s) asserted above. The examiner respectfully requests that the rejection of the claims be affirmed and that such claims be indicated as not inventive or allowable over the prior art of record.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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